

The Claims

1. A safety/warning device having a body adapted to releasably receive therein at least one source of electrical energy, the body having an open upper end in which is received a grommet, the grommet having first engaging means for engaging with second engaging means of the body to ensure correct location of the grommet relative to the body; the grommet having internal engagement means for receiving therein a light source to ensure the light source is accurately located relative to a lens which sealingly engages over and closes the open upper end.
2. A safety/warning device as claimed in claim 1, wherein the light source is at least one light emitting diode mounted on a circuit board.
3. A safety/warning device as claimed in claim 2, wherein the circuit board includes a low-battery-warning indicator.
4. A safety/warning device as claimed in claim 2 or claim 3, wherein the circuit board includes a first contact to contact a first terminal of the source of electrical energy; and a second contact to contact a second terminal of the source of electrical energy.

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5. A safety/warning device as claimed in claim 4, wherein the second terminal of the source of electrical energy has a contact strip to contact the second contact.

6. A safety/warning device as claimed in claim 5, wherein there is a switch mounted on the circuit board adapted to be contacted by a finger on the lens for the switching on and off the device upon rotation of the lens, the switch including an over-center contact.

7. A safety/warning device as claimed in claim 5, wherein there is provided a switch means to switch the device on and off, the switch means being substantially shock proof.

8. A safety/warning device as claimed in claim 7, wherein the switch means includes an over-center contact.

9. A safety/warning device as claimed in any one of claims 2 to 8, wherein the light source is located within the lens such that the at least one light emitting diode is at a height relative to the lens to give a relatively bright band of light in the horizontal direction through a first portion of the lens, the first portion having relatively smooth and convex outer surface.

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10. A safety/warning device as claimed in claim 9, wherein the first portion has a relatively smooth and flat inner surface, and is located between a lower portion and a shoulder portion, the lower portion and shoulder portions having Fresnel lens characteristics to minimise light transmitted therethrough.
11. A safety/warning device having a light source accurately mounted within a lens at a height relative to the lens corresponding to a first portion of the lens, the first portion having a relatively smooth and flat inner surface, and relatively smooth and convex outer surface; the first portion being located between a lower portion and a shoulder portion, the lower portion and the shoulder portion having Fresnel lens characteristics to minimise light transmission therethrough.
12. A safety/warning device as claimed in claim 10 or claim 11, wherein the lens has an upper surface with Fresnel lens characteristics to minimise light transmission therethrough except for a generally vertical, central beam.
13. A safety/warning device as claimed in any one of claims 9 to 12, wherein the convex outer surface of the first portion of the lens has an apex, and the at least one LED has a center, the center and the apex being substantially horizontally aligned.

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14. A safety/warning device as claimed in any one of claim 9 to 13,
wherein there are a plurality of diffuser elements on the inner
surface of the lens.

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